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## THE INFLUENCE OF DARWIN ON THE MENTAL AND MORAL SCIENCES.

By GEORGE STUART FULLERTON.

It is my pleasant task this evening to dwell upon the influence which the life-work of Charles Darwin has had upon the development of a group of sciences with which men do not usually very closely associate his name. Darwin was a naturalist—his life was devoted in large measure to the investigation of certain of the phenomena of the material world, a world to which the highest of organisms as unequivocally belong as do the simplest forms of inorganic matter. But it was impossible that the eager and impartial curiosity of so great an observer should overlook anything so significant in the scheme of nature as is *mind*—the mind of the brute and the mind of man. We find in his works, as might be expected, profoundly suggestive thoughts on instinct and reason, on the ethical and the æsthetic emotions, on the social nature of man and the development of human society. These thoughts have, directly and indirectly, exercised an enormous influence in fields of investigation which, in the nature of the case, it was impossible that he should subject to systematic cultivation.

Darwin's opinions upon the topics to which I have alluded have been the subject of endless discussion. Heredity and environment, variation and adaptation, the struggle for existence and the survival of the fittest have become household words to those who study man, individual or social, as well as to those who occupy themselves with natural science in the usual acceptance of the term. The nature of my theme, and the time at my disposal, preclude the possibility of my setting before you in detail the views which Darwin has expressed on matters which lie within the field of the mental and moral sciences. His influence is not to be ascribed to the fact that he left behind him a certain collection of opinions, which are to be accepted or rejected individually. It has its main source, rather, in a certain

fundamental attitude, a point of view, which has proved so significant, so vital, so revolutionary, that its acceptance compels a world-wide change in the spirit and method in which we approach the sciences which treat of man. It is this point of view that I shall discuss in what follows.

The central and significant truth which Darwin and his followers have forced upon our attention is that man is literally and unequivocally to be given a place in nature, if we are to make him the subject of scientific investigation. It may be said: Has man not always been given a place in nature? To this I answer: Yes and no. It has, of course, been impossible to deny the palpable fact that man does exist on this planet, that he is to be assigned a definite time and place of being. But he who is acquainted with the history of human thought during the centuries past cannot but be aware that the place assigned to man in nature has often, indeed, has generally, been an equivocal one. The earliest Greek philosophy was, it is true, naturalistic; and it is also true that, in the centuries past, some form of naturalism has again and again come to the front. Nevertheless, we must remember that, on the one hand, these philosophies, while of speculative interest, remained relatively unfruitful in the explanation of concrete facts; and that, on the other, they were confronted with and influenced by a powerful tradition of a very different sort, a tradition which has always regarded man as a thing in some sense *in* nature, but not *of* it. I think it is not too much to say that, on the whole, pre-Darwinian science treated man as an equivocal thing. The sciences which occupy themselves with man grew up under the influence of preconceptions which have only within a generation been disappearing in the solvent of the new thought.

It is with some hesitation that one undertakes to describe in a few sentences the characteristic spirit of a given group of sciences at a definite time. There are always differences of opinion to be remarked. The old and the new, cautious conservatism and radical independence exist side by side. Nevertheless, to bring out clearly the extraordinary change, largely due to the influence of Darwin, which has come over the mental and moral sciences, I shall attempt a characterization, going back, first, to a time to which those of us

who are no longer young can easily think ourselves back; and, then, touching upon those sciences as they are at the present day. I forestall criticism by remarking that no one can be more conscious of the very impressionistic nature of the pictures which I thus draw with a few strokes than am I myself.

Can we not remember a psychology which no one attempted to treat as a natural science? A psychology which accepted a mind endowed with a certain group of faculties or powers, which seemed as ultimate, as irreducible, as little to be explained or accounted for as if the mind had been abstracted, fully developed, from some other universe than ours, and were incorporated in a tenement chosen at haphazard, which had to be accepted as serving its purpose passably well for a season? It was a psychology which lived in an atmosphere of abstractions, was inextricably mixed up with philosophical speculations, and took comparatively little note of the differences between minds, and the significance of such. It was a psychology to which the revelations of mind in the lower animals, the dawning intelligence of the infant, the aberrations from normal development discoverable in the idiot or the mentally deranged, the mental differences which characterize the races and peoples which cover our globe, remained relatively insignificant.

I do not mean to underestimate the science of psychology even at this stage of its development. But I wish to draw attention to the fact that such a psychology is little more than an attempt to describe, in its general outlines, a given type of mind, that of the normal, developed, civilized man. It accepts the characteristic of such a mind; it does not attempt to explain them; in treating mental phenomena in abstraction from the great organism of nature, it reduces the knowledge which it has to a body of facts robbed of a great part of their meaning.

Of æsthetics and ethics one may speak very much as I have spoken of psychology. The one concerned itself with beauty as it is revealed to man at a certain stage of his intellectual and emotional development; the other with his moral judgments, which were accepted as final, indisputable, inexplicable. To one of the most learned of British scholars, the ornament of a great university, it did not seem out of place, a few decades ago, to write a treatise

on morals after the pattern of a treatise on geometry. A few fundamental principles were taken up as having ultimate and unquestioned authority, an authority analogous to the definitions and axioms of a mathematical treatise; then the attempt was made to deduce from them a complete system of ethical maxims. As we peruse the volume now, we see in it, as in a mirror, the moral features of the character of the author. It is clear that he had arrived at a high stage in his ethical development, that benevolence, justice, veracity, obedience to law, and all the rest, were principles sacred to him—as they should be. And we can also see that he was a prudent man, with a wholesome tendency to check even good principles which seem in danger of running out into riotous excess. Does he not tell us unequivocally that the command “Thou shalt not lie,” is absolute and unequivocal; and does he not, when in a later chapter he considers certain cases in which a strict adherence to truth would appear to precipitate grave disaster, prudently refuse to give us counsel, and leave us to the uncertain dictates of our bewildered conscience? How can we expect of him that he bring to an end a strife between two ethical principles, that of veracity and that of benevolence, equally independent, underived, ultimate, neither of which can abate one jot of its authority? In the nature of the case, our only refuge seems to be in an illogical compromise. Ethics, so conceived, can scarcely be called science.

Of the earlier condition of that science which studies man as organized into societies, a science which comprises a whole group of subsidiary sciences, there are others here better qualified to speak than am I. But it appears self-evident that, in so far as the nature of man is regarded as a thing to be accepted rather than to be accounted for, a limit is set to the province of explanation in all those sciences which concern themselves with the study of the social organism in its various phases and in the course of its development. That province is immeasurably widened when description is regarded as only a first step, the preliminary to a study of origins. It will be admitted by all that description once played a more exclusive rôle in the study of social phenomena than it does in our day.

That a revolution has taken place in the sciences upon which I

have touched so briefly must be evident to anyone acquainted with what is going on in those fields at the present time. The dominant idea which has controlled the progress which has been made, we owe to the genius of Darwin. That dominant idea is that the mind of man as well as the body of man must be treated as a natural phenomenon, making its appearance under given physical conditions; to be accounted for, as physical peculiarities are to be accounted for, by a reference to heredity and environment; a thing so intimately related to the body, that it must be looked upon as a function, an instrument significant in the struggle for existence, a something full of meaning, if accepted in its setting, but, torn from that setting, a riddle, a document in cipher, an unfruitful fact for science.

He who would be a psychologist today is compelled at the outset to realize that he is not studying that traditional abstraction, *the human mind*, with its traditional endowment of abstract faculties, but is studying mental phenomena as they are revealed in connection with a variety of organisms. He is forced to acquaint himself with anatomy and physiology, to study with especial care the senses and the nervous system of man. He is impressed with the necessity of supplementing the deficiencies of observation by an appeal to experiment, and he is introduced into a laboratory fitted out with an arsenal of apparatus, that would have inspired the psychologist of an earlier time with dismay. Moreover, it is dinned into his ears that no manifestation of mind must be neglected. He hears of animal psychology, child psychology, race psychology, pathological psychology, and the rest, until the magnitude of his task looms up before him and oppresses him with the boundlessness of his ignorance.

No man is more conscious of his shortcomings of the science of psychology today than is the psychologist himself. The air is full of strife, we are pressed upon on all sides by unsolved problems for which rival solutions are offered. Nevertheless, it cannot be denied that this science is gradually taking its place among other sciences which study the phenomena of nature, following with patient and painstaking effort the oftentimes weary road of observation, experiment, sober hypothesis and verification. He whose science may lead

him to reflect with curiosity upon the possible psychic life of micro-organisms, to stand perplexed before a case of dual personality, to note the resemblances and the differences which mark the mental life of the lowest and of the highest races of men, to contrast with these the evidences of intelligence betrayed by creatures which stand lower in the scale of life, cannot but be impressed by the fact that given manifestations of mind occur under given conditions, that mental phenomena are to be assigned unequivocally a place in the evolution of things. For him, the mind of a man, or the mind of a brute, is not an explained fact, for his science leads him as yet but a very little way; but it is an explicable fact, a *theoretically* explicable fact. He stands with confessed ignorance in the presence of many mysteries; but it is the fundamental assumption of his science that they are not hopeless mysteries; they are the mysteries of incomplete knowledge.

It will readily be seen even by a layman that this psychology is not the psychology of the pre-Darwinian thought. The old psychology has not merely grown, as all sciences may be expected to grow under the hands of their builders. It has been revolutionized. Mental phenomena are no longer phenomena at large, with no definite relation to any system. They are brought down from the empyrean and planted in the bosom of mother earth; where it, must be confessed, they seem to find a soil adapted to them, and where they show signs of a fertility in which they before appeared conspicuously lacking.

This modern view of the mind has been of far-reaching significance for all the sciences which treat of man, individual and social. Thus, the science of æsthetics regards as significant material the sentiment of beauty in its lowest manifestations as well as in its highest. It cannot permit the dictation of any one man, or accept as final the æsthetic judgment of any age or clime. It goes much deeper, and recognizes a relative justification for judgments the most diverse. Without denying progress, and without obliterating the line between the actual and the ideal, it sees in the divers standards of beauty which have been accepted or are accepted today, aspects of the evolution of the higher emotions, each significant in its place, having its rôle to play in the development of humanity, not to

be despised in any instance, but never to be accepted as a last standard which shall remain fixed and unchangeable.

The ethical philosopher has come to view his science from the same standpoint. He is concerned with rights and duties; man as he studies him is necessarily a social creature, standing in more or less complex relations with his fellow man. Man as a moral being is a constituent part of a greater organism, the family, the tribe, the state, humanity as a whole. The greater organism has a life history, somewhat analogous to his own; it is unfolding a life which, beginning with something relatively simple, comes to reveal in its later stages an indefinitely greater degree of complexity. It is to be expected that the rights and duties that express the relations of man to man in the social organism should take no new aspects as the relations themselves become more complex or come to be better understood. It is inconceivable that the same qualities of mind and character should, under widely varying conditions, call forth the same degree of approval, or be stamped as detrimental and to be discouraged. In other words, it is inconceivable that the social conscience should be an unvarying thing, unadapted to its setting, taking no note of those relations which are the very ground of its being. Moral codes must vary, if they are to be significant of the life of a community; actual ideals must be abandoned for better ideals, if men are to rise to more enlightened conceptions, and to embody them in a higher life. Ethics can reverence everyman's conscience, regarding it as the expression of the stage of moral development to which, for certain reasons, he has managed to climb. It can regard no man's conscience as infallible, inexplicable, an arbitrary limit to further development.

In speaking as I have of ethics, I have virtually described the attitude of the modern man to the social and historical sciences generally. It is impossible for me in the brief time at my command to dwell at length upon these disciplines. Suffice it to say that whether men are studying with the anthropologist, the differences which characterize races and peoples; with the sociologist, the general laws of the evolution of human societies, or the special institutions which are now the subject of such detailed and laborious investigation; with the historian, the life history of a community,



or of any class of men within a community;—the work is coming to be done under the control of the developmental idea. In seeking for the explanation of social phenomena, influences are much dwelt upon which once would have received little attention. Heredity, environment in the broadest sense, adaptation to new conditions, survival, these conceptions necessarily lie in men's minds, and give a direction to their efforts.

As I have said, the last half century has witnessed something very like a revolution in the field of the sciences which concern themselves with man. It may well be asked, why did not this revolution take place earlier? Was there nothing in an earlier time to suggest all this? to stimulate men to new and better directed efforts? I answer, there was much. He who is familiar with the history of philosophy knows well that there is scarcely one of the great controlling ideas of modern science, which has not had its forerunner in the thought of centuries gone by. Struck out like a spark from the brain of some bold and independent thinker, it has flashed for a moment upon the night and then has gone out. It has not kindled the lamp, the steady flame, in the light of which the world is now doing its work. Ideas can be born out of due time; unadapted to their environment, they fail to develop and bear fruit. Even a great thought may appear to us disembodied, a speculative audacity which does not stand unequivocally upon solid ground as a thing undeniable, unavoidable, necessarily to be reckoned with, as much an inhabitant of the real world as are we ourselves. Such thoughts can be ignored; they are seed cast upon stony ground.

Darwin's great service to science, as we all know, does not consist in the discovery of evolution, or even in the first suggestion of the doctrine of natural selection. It lies in the fact that he made fruitful what had been relatively unfruitful. His patient, cautious, scientific demonstration of the value of his ideas in furnishing concrete explanations of the phenomena of organic life, coming at a time at which the world was ready to understand what he had to offer it, precipitated the great battle the echoes of which can still be heard. He and his successors have made it impossible for us to revert to the thought of an earlier day. The new doctrine is with us, and stares back at us from the pages of scientific works in every

field. We cannot refuse to acknowledge it; it only remains for us to ask ourselves in what spirit we will admit it and adjust ourselves to it.

It is notorious that Darwin's work aroused serious apprehension and even bitter opposition on the part of many good people in his own time. It would be wrong for me not to dwell upon both aspects of the doctrine of the evolution of man and of human society, for both are actually of lively interest to those busied with the mental and moral sciences. The two aspects to which I allude are these: On the one hand, in treating man as a natural phenomenon, an explicable thing, we seem to be gaining much for science; on the other hand, in placing him in nature as a part of nature, we appear to degrade him from the high estate which the beliefs of the past have assigned to him—to make him, not a little lower than the angels, but a little higher than the brutes. I cannot refuse to discuss these things, for have I not contrasted rather sharply the mental and moral sciences as they were, and the same sciences as they are now, painting in no neutral colors the character of the modern investigator? It may fairly be asked whether the portrait is not too highly colored. Are there not those now busied with the study of man, in one or another of its aspects, who give but a qualified assent to the doctrine of evolution as it is coming to be accepted by many of their colleagues?

Let us dwell, first, for a few moments upon what men of the most diverse opinions must recognize as the attractive aspect of the doctrine. The idea of evolution has unquestionably proved a valuable instrument of investigation in every science which busies itself with man. Whatever mental reservations the man of science may cherish, whatever the limits which he may be inclined to set to evolution, he actually appeals to the principle in the interpretation of concrete facts. He finds that, in the light of it, the mind of man, his opinions, his emotions, his æsthetic judgments, his ethical codes, his social institutions—everything becomes luminous with a new significance.

Moreover, with an increase in comprehension comes a broader and a more intelligent sympathy. At any stage of his progress

man is what he is in virtue of his inheritance and his environment; it is not a matter of accident or of wholly inexplicable perversity that, at certain stages in the evolution of society, men are ignorant, limited in their sympathies, incapable of recognizing their own best interests. He who realizes this can see a relative good in that which the unenlightened will unhesitatingly condemn. There are those who have welcomed with enthusiasm the idea of the ascent of man, who have found it an inspiration to look into the future, to conceive of a development as yet faintly foreshadowed; a development from the standpoint of which man as he now is, limited in intelligence and in the control of himself and of the forces of nature, a creature of instinct and of impulse, climbing the hill before him stumblingly and with much waste of effort, will seem a creature to be pitied, a being whose feet are set on an upward path, it is true, but, nevertheless, one who is only at the outset of his journey, far from the regions of light toward which the development of humanity is tending.

The development of humanity, the gradual evolution of social systems, the idea of a historical order in which man has his definite place—are these not conceptions which protect the man who has really comprehended them against those radical proposals, so dear to men of quick sympathies and of ardent temperament, to make sudden and far-reaching changes in the social order, to forestall the slow course of natural development, and at once to confer upon us citizenship in some Utopia with all the advantages and none of the drawbacks of the world in which we actually find ourselves, and to which, as a matter of fact, we are moderately well adjusted? I shall not dwell upon these visionary schemes. They always are, they always have been, with us. It is no small thing to have in our hands an instrument of defence against the man who would make us perfect by violence, increase our stature by stretching us on the rack, drive us perforce into a land of milk and honey, when we cannot drink milk and are unfitted to subsist on honey.

So much for an inadequate sketch of one aspect of the doctrine of evolution, for the fruitfulness of the idea as an instrument of research, as a real help in pushing back the barriers of our ignorance, as the earnest of a hope for better things to come. And now for

a few thoughts touching what has seemed to many a less alluring aspect of the doctrine. In so far as we make man a part of nature, and treat his mind as we treat other natural phenomena, do we not deny his independence, the primacy which has been supposed to be his? Do we not rob him of certain hopes and aspirations, which men in the past have counted as very dear possessions? I cannot describe to you in a sentence the attitude of the worker in the mental and moral sciences toward this problem, for opinions still differ widely.

There are those to whom a frank naturalism is not repugnant; who accept man as a natural phenomenon, and trouble themselves little about the consequences. There are those who welcome the conception of the evolution of man, but wish to set limits to its scope. Something they would save out of nature, a spiritual principle, which they variously define, and of which they sometimes admit they can say little that is definite. There are those who, launching themselves upon the seas navigated by the speculative philosopher, announce to us discoveries that sound to the natural man like the tales told by early travellers. They inform us that the whole course of the evolution of nature, physical and mental, is spiritual throughout; that the only ultimate reality is mind, and that the world of physical phenomena which unfolds itself before our eyes has its source and being in the interaction of minds. I should not bring such a speculative view as this to the attention of a society which is composed of workers in the special sciences, were it not that it has recently had the endorsement of those to whom no one would deny the right to be called scientific men—among others, of the man who, I suppose, in the minds of a majority of those here present, would take his place as the leading representative of the scientific study of the mind now living in Europe. Lastly, there are those, and they happen to be popular leaders, who are in open revolt against science; and who try to save the freedom and independence of man by setting up a new standard of truth, and by refusing to recognize that this world is the orderly thing that science assumes it to be. These last, I think, science will scarcely take seriously.

In the foregoing, I have tried to give a fair account of the

direct and indirect influence which the life-work of Darwin has actually had on the development of the mental and moral sciences. I have endeavored not to obtrude my own personal views and predilections. But I cannot forbear, at this point, to ask whether, before deciding upon our attitude toward the doctrine of the evolution of man, it would not be wise for us to turn to history, and to consult the actual development of human thought in the past.

Again and again, when some new truth of wide significance has been discovered, or has come to be vividly realized, it has seemed to many dangerously revolutionary; it has presented itself under a threatening aspect. Nevertheless, the outcome has not been pure destruction.

The life of man has never been guided and moulded exclusively by the clear light of science. Religious aspirations, ethical values which have a traditional sanction and which have not been consciously evolved as the result of scientific thought, have in all ages acted as a support and a guide to life. The human mind refuses to be held wholly within the limits of what has been definitely and indisputably established—which limits, be it remarked, are by no means so far apart as, to the uninitiated, they seem to be. Man speculates regarding the ground of all things, he has aspirations which seem to reach beyond the span of existence which lies in the light of day before him.

Now, history has shown that, when any new advance in our positive knowledge has seemed for a while to work with destructive force against the ideas and ideals which have been of such high value to mankind, the result has not been, as a matter of fact, a destruction, but a readjustment, a broadening of view, a rise to higher conceptions and ideals. Religious aspirations and ideals, the conviction that ethical values are sacred and the life of man a thing to be treated with reverence—these attitudes have not been abandoned. We do not seem to have reason to think that the acceptance of the new evolutionary doctrine will banish them from the world.

Why, then, should we not freely and unreservedly accept the doctrine of evolution as the useful instrument it has proved itself to be in the sciences which concern themselves with man, and leave to the future the determination by actual experiment of any limits

to be assigned to it? Why not trust to the future readjustment which history teaches us to expect? Incidentally, it seems right to call attention to the fact that we live in our own age, and not in another; that the religious aspirations and the ethics of our age are the ones which practically concern us, and must guide our lives. The very doctrine of the evolution of man should teach us to be conservative as well as progressive; to realize that growth does not take place by a series of explosions; to see that our inheritance from the past and our actual environment cannot be regarded as without significance for human life. This is a practical matter upon which, in such a paper, I touch with due apologies.

Now that I am at the end of my paper, I think it is not out of place that I should make a personal confession of a natural human weakness; a weakness which will, I believe, be shared with me by many of those who are present. It is this: I dwell with the more pleasure upon the great and beneficent influence of Darwin, in that it is impossible to become acquainted with the life and character of this wonderful man, gifted in intellect, modest, open-minded, passionately sincere, free from envy and uncharitableness, a model for those who devote themselves to the investigation of truth, without being inspired with an affectionate admiration, and without feeling a certain joy in the fact that, after the long and bitter conflict precipitated by his ideas, the mists of misconception should have been cleared away, and his genius should meet with the generous recognition which is its due.